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THE JOURNAL OF PHILOSOPHY

VOL. XXIV. NO. 25: DECEMBER 8, 1927

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PUBLISHED FORTNIGHTLY
BY THE
JOURNAL OF PHILOSOPHY, INC.

THE JOURNAL OF PHILOSOPHY

All communications to the Editors should be addressed to Professor FREDERICK J. E. WOODBRIDGE, or Professor WENDELL T. BUSH, or Professor HERBERT W. SCHNEIDER, Columbia University, New York.

Subscriptions and advertisements should be sent to THE JOURNAL OF PHILOSOPHY, 515 West 116th Street, New York. The annual subscription price (twenty-six numbers) is $4.00 and the charge for single numbers is 20 cents. Advertising rates will be forwarded on application.

THE JOURNAL OF PHILOSOPHY is owned by The Journal of Philosophy, Inc., 515 West 116th Street, New York, and published at Lancaster, Pa.; President, Wendell T. Bush; Vice-President, Herbert W. Schneider; Treasurer, Frederick J. E. Woodbridge; Secretary, Iris W. Wilder.

Entered as second class matter, March 18, 1921, at the Post Office at Lancaster, Pa., under Act of Congress of March 3, 1879.

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VOL. XXIV, No. 25. DECEMBER 8, 1927

THE JOURNAL OF PHILOSOPHY

CONCEPTS AND TWILIGHT ZONES[1]

THE three main theses which I wish to support are:

I. That concepts are signs, generally verbal, pointing to invariant relations or transformations in the natural world (against the classical doctrine that they are always generic mental images).

II. That, though these invariant elements make the definiteness of science, there are elements of indetermination in the denotation of concepts, regions in which opposite statements are equally true.

III. That the relative extent of illumined focal region and twilight or penumbral zone varies with different concepts, and that the recognition of such variation provides important help in dealing with various logical and metaphysical problems, in the classification of intellectual temperaments, and in practical affairs.

I. CONCEPTS AND SIGNS

According to the classical doctrine adhered to in our textbooks on logic, psychology, and education, concepts are general images abstracted from percepts. We begin our mental life with percepts of this or that table, this or that metal, etc. In the process of comparison the features in which the different tables or metals vary, drop out, and the common elements are thus abstracted from the particular instances and are formed into generalized pictures of all the tables or metals we have seen. The essence of conceptualism is that this composite picture exists in the mind only and that only the particular tables or metals really exist in nature.

Against this the following points may fairly be made:

1. *Concepts are not general images.*

(*a*) Against the possibility of *general* "ideas" (as images or pictures), the argument of Berkeley seems to me still valid. A general picture of every possible triangle could itself be neither equilateral nor isosceles, nor scalene, and yet there can not be a triangle that does not fall into one of these categories. The same objection can be repeated against the "idea" of an animal that is not vertebrate or invertebrate, of a metal that has not the color of either iron or mercury, gold or silver, etc. There may be "ideas" or images so blurred and vague that they can not be said to be defi-

[1] Read before the New York Philosophical Club.

nitely particular, but such "ideas" are certainly not what we refer to when we speak of the definite concepts of the exact sciences.

(*b*) Recent psychology seems to justify the doubt, expressed long ago by Burke, as to whether people who understand what is meant by *right, liberty, justice,* etc., have any corresponding images other than the words or sounds, and whether even more concrete concepts universally arouse any other images in the course of ordinary rapid conversation or reading.

(*c*) In any case, it seems clear that the determination of the *meaning* of a concept like ratio, energy, gravitation, normal distribution, etc., is entirely independent of the psychologic question as to what images, if any, are in our minds when we think of these objects, just as the question concerning the physical structure of objects is independent of that relating to the character of our retinal images.

2. *Concepts not mere sums of abstract characteristics.*

(*a*) The classical doctrine views all concepts as formed by abstracting the marks or characteristics common to all instances to which the concept applies. The mechanical view of these marks as external to each other leads to a mechanical interpretation of the "law" of the inverse proportion between the extension and intension, as if it were universally true that the wider our generalization, the less significance it can carry. If this were always true, knowledge of the general could never give us increased insight into particulars: we could never understand osmosis the better for knowing the nature of pressure, nor human physiology the better because of our knowledge of vertebrate physiology, nor English grammar and law because of the study of general grammar and jurisprudence. The classical notion that every concept is composed of a definite number of distinct characteristics leads consistently to the old rationalistic distinction between analytic and synthetic judgments (*Cf.* Kant's Introduction to the *Critique of Pure Reason*). This theory breaks down in its account of the necessary and yet fruitful character of deduction, a breakdown which is not relieved by Kant's invention of *a priori* intuitions of time and space, which turn out to be unverifiable and entirely unnecessary for actual mathematical procedure.

(*b*) Against the classical doctrine we may also urge the existence of concepts which have only one object, e.g., the physical world, the science of arithmetic, absolute zero, Buddhism, the history of mankind, etc. Whether or not we accept Russell's theory that a relation such as *difference* has no instances and that whenever two things differ, there we have the same relation of difference, there can be no doubt that concepts such as *difference* denote relations that can not be reduced to properties of things, like their colors and weights.

3. *Concepts concerned with relations or transformations.*

Any survey of the actual concepts of modern science will show that they are all predominantly concerned with relations, operations, or transformations rather than with classes or kinds of things and their qualities. The emphasis of classical logic on genus and species was probably due to the fact that Aristotle's principal scientific preoccupation was with classificatory zoölogy and botany and that British empiricists like Mill had no wider range of primary scientific interests. In any case, it is clear that classification is but a subordinate feature of modern science, which is dominated by experimental statistical and mathematical considerations. Hence modern logic, to the extent that it has actually come into contact with modern science (as it has in mathematical logic), has been forced to give up the universality, or at least the primacy, of the old analysis of everything into substance and attribute. To view number, for instance, as a quality of things leads to insuperable difficulties when we come to deal with complex numbers or real numbers like the square root of two, difficulties which are avoided when we recognize that even integral numbers are operations, viz., the correlation of all similar groups or aggregates. If we ask what is common to all the letters of the alphabet we can hardly expect a significant answer unless we start with the concept of the alphabet and recognize a certain identity of function in all the letters. The relational or operational logic has thus proved to be far wider and more serviceable than the older classificatory logic. All the truth of the latter can be maintained in the former by interpreting concepts of genus and species in terms of functions with variable terms. Thus a table is anything which serves a certain purpose in certain ways; an animal is not a composite picture or a bundle of properties common to cow and starfish, but anything which behaves in certain ways, etc.

4. Stated positively: *Concepts are signs* (*mainly audible or visible words and symbols*) *pointing to invariant relations,* i.e., relations which remain identical despite the variations of the material in which they are embodied. Significant concepts, therefore, enable us to arrange in order and hold together diverse phenomena, because of some real unity of process or relation which constitutes an element of identity between them. As our knowledge develops and our concepts become more comprehensive they do not become thinner or less significant. On the contrary, they become more significant because, as they are cleared of accidental associations, they point to relations and operations which really unify diverse phenomena and reveal unexpected characteristics. Thus the term "mass" begins in mechanics by pointing to the quality of resistance to touch, which varies in complex ways; when, however, it is developed and

defined more abstractly as a ratio between forces and accelerations, we are enabled to perceive an element identical in mechanical inertia as well as in light, electricity, and gravitation. That which thus enables us to correlate diverse phenomena also enables us to understand each the better. The concept "French" is not necessarily thinner or less significant than that of "Parisian." The meaning of the term "European" does not involve dropping of all differences between French and Germans, but, on the contrary, makes this difference significant by deriving it from the operation of a common nature working under different conditions, geographic, political, etc. Deduction is thus fruitful to the extent that we start from real unitary or universal transformations that retain their character when applied to all sorts of diverse material or when joined to all sorts of subsidiary transformation.

This view also enables us to cut the ground of the skeptical arguments of Bergson and James that concepts are static and fixed and can not grasp the nature of reality which is ever changing or growing. It is rather the ordinary percepts of tables, metals, animals, etc., which represent the more or less habitual cross-sections of the changing world. But the genuine concepts of science, especially the mathematical ones, denote the relations or transformations that are the clues to the understanding of the various changes about us. This they do by making us see the pattern of these changes and the invariant characteristics which make things keep their identity throughout the change. We thus explain both the fact of change and the reason why things seem to have the relatively fixed nature which they do show.

The new logic does not deny the categories of substance, things, and qualities, but it provides greater scientific insight by viewing things not merely as bearers of qualities, but more significantly as also centers for changing relations and capacities.

5. *The objective theory of meaning.*

According to the prevailing view, the relation of meaning which holds between signs and the objects to which they point is in the mind only. This is a truism if we hold that both signs and that which they denote are equally mental. But in this case the term "mental" denotes everything and does not exclude anything, and thus becomes too wide to characterize the specific nature of *meaning*. If, however, we view mind as something to which there is an external nature, the relation of meaning can not be merely mental, but must in some way exist or subsist in the same external nature in which we find the physical sign and the terms between which it holds. This does not deny the existence of consciousness in organisms to which certain signs become significant because of certain physical

happenings. We may even admit the existence of private and purely conventional signs (artificial memoranda, ciphers, etc.), but the concepts of science clearly presuppose a common natural world in which communication may be established by means of the identity of relations which hold between certain conventional and natural entities. That conventional language has a natural basis becomes clear when we examine the process of establishing a language between those who had no communication before, e.g., Columbus and the West Indians.

II. Twilight Zones

It is commonly recognized that scientific concepts introduce definiteness and precision into our view of the world. This recognition is generally associated with the view that the world of nature is always definite and that only our ideas of it are more or less indefinite. It seems to me that there is a sense in which there are also regions of indetermination in the natural world itself. At any rate the objective denotation of our concepts may be of different degrees of definiteness.

Definiteness is generally produced by sharp antitheses and rigorous dichotomous divisions based on the logical principles of contradiction and excluded middle. These principles, our logic books warn us, do not mean that everything is either white or black, soft or hard, warm or cold, virtuous or sinful. For there may be things that belong to neither alternatives. Velocities are neither white nor black, virtues are not literally soft or hard, etc. But our logic books do not warn us against the much more serious common error of denying that things can be both white and black, soft and hard, warm and cold, alive and dead, visible and invisible, though, of course, not in the same relation or respect. It is the neglect of this needed warning that makes the term "logical" frequently used as a term of deserved reproach. We may be most vigorous anti-Hegelians and realize the intellectual suicide involved in denying or even softening the distinction between opposites. Yet we must grant that of things in transition there are times when opposite predicates are equally true. We can not, in fact, draw an absolutely sharp dividing line between day and night, or say when a man ceases to be alive and becomes dead. No distinction seems sharper than that between the visible and the invisible. Yet actually there is no sharp line dividing what we see from what we do not see. If we disregard the rapid mobility of our eyes our field of vision at any moment is neither finite nor infinite, but tapers off from the illumined focal regions of attention to the region of the invisible.

How do we reconcile the absoluteness of logical distinctions with the actual coëxistence of opposites in these twilight zones?

The answer is that the laws of logic apply to the realm of essence, i.e., to natural existences only in so far as they are determinate. If nature means the realm of the determinate, then obviously all the indetermination exists in another realm which we may call *maya, mind,* or something else and which will necessarily have to be viewed as non-natural. If, however, nature includes both determination and indetermination, our empirical view of things can be explained as well as the growth of scientific or mathematical knowledge. On the nominalistic theory that concepts are mere words or sounds, or on the conceptualist theory that they are something in the mind only, nature is entirely alogical and there can be no valid explanation of why nature should conform to the laws of the logical operations of a mind to which it is external. But according to the realistic theory nature *is* determined by operations which our concepts denote, and obeys the laws of logic to the extent that it is so determined. There is, however, nothing in logic or nature to prevent the existence of complexes in which contrary tendencies are conjoined. The law of contradiction is that nothing can be both *a* and not-*a in the same relation.* But physical entities or complexes of relations admit and often demand contrary determinations within them. Of any given individual it may be true to say that he is generous and not generous at the same time. The truth of both of these statements becomes clear and determinate if we draw a distinction and say he is generous to his family and in public charities, but ungenerous to his employees and economic competitors. A body can not be moving north and south at the same time, but it may be pulled both north and south, and its actual path the resultant of the two opposite poles. The law of contradiction does not bar the presence of contrary determinations in the same entity, but only requires as a postulate the existence of a distinction of aspects or relations in which the contraries hold.

The last example suggests that to make logic applicable to empirical issues, we must employ the principle of polarity. By this I mean that the empirical facts are generally resultants of opposing and yet inseparable tendencies like the north and south poles. We must, therefore, be on our guard against the universal tendency to simplify situations and to analyze them in terms of only one of such contrary tendencies. This principle of polarity is a maxim of intellectual search, like the principle of causality, against the abuse of which it may serve as a help. If the principle of causality makes us search for operating causes, the principle of polarity makes us search for that which prevents them from producing greater effects than they do. In physical science the principle of polarity would thus be represented by the principle of actions and reaction, and

that wherever there are forces there must be resistance. In biology it has been expressed by Huxley, in the aphorism that protoplasm manages to live only by continually dying. This finds its ethical analogue in the mutual dependence of the concepts of self-sacrifice and self-realization. Philosophically it may be generalized as the principle, not of the identity, but of the necessary copresence and mutual dependence of opposite determinations. It warns us against the greatest bane of philosophizing, to wit: the easy artificial dilemma between unity and plurality, rest and motion, substance and function, actual and ideal, etc. Professor Felix Adler has used the figure of the scissors to denote the fact that the mind never operates effectively except by using both unity and plurality like the two blades which move in opposite directions. Professor Marshall, in his *Principles of Economics,* has used the same figure to denote the mutual dependence of the economic factors of supply and demand. At other times the action of our jaws in mastication, or the necessity of applying a brake when you are going down hill, have appealed to me as representative figures of what I have in mind. Physical science employs this principle to eliminate the vagueness and indetermination of popular discussion in which opposite concepts, like good and bad, hot and cold, large and small, remote and near, can be applied to the same thing. Such vagueness is eliminated by substituting concepts of numbers and measures, which enable us to pass from relatively indeterminate issues as to whether your object is large or small, hot or cold, to the more definite issue, how many yards, how many degrees of temperature, etc. Similar progress might aid in philosophy if we recognize the indeterminateness of certain issues as to whether certain things exist or not, unless we ask, exist how or in what sense.

From the point of view of the principle of polarity, twilight zones are regions about the point of equilibrium of opposite tendencies. For this reason all concepts which swallow up their own negatives, like the concepts of reality, existence, experience, the universe, etc., are essentially indefinite in meaning.

We conclude, then, that, while in the realm of formal or strictly logical concepts there can be no twilight zones, such zones are always present in the realm of psychical and physical existence. Whatever difficulties or possible contradictions may be found in the foregoing account, the facts seem certain that all words or combinations of words which do not point either to an inarticulate here and now or to purely logical relations do point to a universe in which there are elements of indetermination, or at least of different degrees of definiteness.

III. Applications

That the relative extent of twilight zone and focal illumination varies with different concepts can be made evident if we barely juxtapose concepts like *a long distance, a day's journey,* and *thirty-five miles* or a *good machine* and one that is *seventy per cent. efficient,* or an unpopular magistrate and one that has a majority against him. This recognition of the diversity in the extent of the twilight zone can be applied in logic, metaphysics, psychology, physics, economics, politics, art, social life, and religion.

1. *Formal Logic.*—(*a*) In the doctrine of definition our analysis helps us to understand the greater definiteness of groups of words giving the meaning of a single one, e.g., defining the Nordic type by the color of eyes, hair, etc. It also enables us to see the importance of using in our definition terms with smaller penumbras than the terms defined.

(*b*) In the doctrine of division and all that depends upon it we are warned against the widespread fallacy of supposing that any classification of natural objects can have the absolute rigor of logical division. The twilight zones between the classes of plants and animals, between vertebrates and invertebrates, need not disturb the biologist whose principles of division are based on concepts of wide and significant application. For practical purposes also we must adopt classifications that have even larger overlapping regions, for example, the sane and the insane, the normal and the abnormal, the well and the sick, etc. It would be the height of unwisdom to refuse to adopt a useful classification because it breaks down in a practically negligible number of cases. But the confusion between the practicality of empirical classifications (to be tested by their applicability) and the absoluteness of division based on logical principles, is perhaps the most fruitful source of philosophic error. No other group of intellectual workers is so addicted to the use of sharp alternatives and to the easy assumption that things *must* be in one of the compartments we provide for them *a priori.* There is reason to suppose that most philosophical errors (except when dealing with purely logical concepts) are downright fallacies; and metaphysical certainty as to matters of fact is the result of ignorance of anything to contradict our assertion.

2. *Metaphysics.*—Our analysis enables us not only to avoid nominalism and conceptualism, but also to see the inadequacy of two types of realism, to wit: the atomic and the organic.

By the atomic type I mean that which tends to think of the world as devoid of genuine transitional or twilight zones. It thus includes such philosophies as the Kantian, so far as the latter is addicted to

absolute metaphysical distinctions all in black and white without any gray perhapses or probabilities. This type of thought is strong in examining the logical characteristics of diverse concepts; but it generally tends to overlook the variation of their objects and the dependence of such variation upon the universe in which they occur. The great philosophic weakness is its uncritical reliance on sharp dilemmas between the ideal and the real, the material and the spiritual, the static and the dynamic, the mechanical and the organic, the old and the new, the active and the contemplative, etc. Philosophers who regard their point of view as functional, dynamic, organic, and new, may resent their metaphysics being placed in the category of the atomic. Yet to the extent that their arguments rest on sharp alternatives between such concepts as substance and function, their roots are in the soil of atomism.

By the organic type of metaphysics I mean the tendency which disparages sharp antithesis and distinctions, and thus confuses all things into one gray mixture. (Neo-Hegelians, like Bosanquet, seem to me to be typical of this tendency.) It has its logical roots in the view which regards the nature of concepts as determined by the contexts in which they occur, and thus tends to arrive at the logical conclusion that it is the whole universe that is the real subject of every significant proposition. It thus tends to call attention to the complexity of things and to avoid superficial clarity. But it systematically undervalues the importance of abstractions and does scant justice to the relative independence of the various parts of the world. The absolute totality of things is too indefinite (as well as the object of too much ignorance) to explain anything in it.

3. *The Rationalistic and Mystic Types of Intellect.*—This new analysis of atomic and organic metaphysics suggests the possibility of viewing thinkers as predominantly either rationalistic or mystic. The rationalists are those who love sharp distinctions, clear subdivisions of structure, and hate blurred outlines and overlapping areas. They regard themselves as the clear-minded, opposed to the muddy-minded mystics. But the mystic is conscious of the wealth of being and experience not yet made definite, and which perhaps can never be made definite.

Your symbols, he says to the rationalist, are clear and stand next to each other in definite lines; but that to which they point is wider and deeper. The clearness and definiteness are dearly purchased at the price of comprehensive and deep sensibility. Clarity may be the result of superficiality, concentration and wilful narrowness.

One might be tempted to say, with Lévy-Bruhl, that the mystic type is more primitive, that the vague consciousness is more primi-

tively substantial and that distinctions are the result of intellectual experience. A great deal of evidence can be given for this view, to wit: primitive religious experience, the reliance on the mutterings of frenzied priestesses, and the belief that the demented are possessed of superhuman wisdom. But it should also be noted that children and the intellectually undeveloped are extreme rationalists. They divide all things into the good and the bad. In their popular novels and melodramas as well as in their fairy tales all characters are black or white, heroes or villains. Perhaps it would be better to say that what is primitive is the aversion for distinctions, or fine discriminations. The unreflecting man dislikes to be asked what he means by good or bad, etc. And he is irritated if in answer to his questions whether you believe in God you tell him that that depends on his definition of God. Thus melodrama and fairy tales are rationalistic in the sharp distinctions which they draw between the good and the bad characters, but mystical in their refusal to subdivide and introduce many subtypes. All heroes, villains, princes, and princesses are of the same mold.

4. *Practical Applications.*—(*a*) If we revert to our example of the relative extent of twilight zone in the concepts of *long distance, a day's journey,* and *thirty-five miles,* we can make clear to ourselves the importance of measurement. It eliminates the vagueness of individual estimates by correlating them with phenomena of small variability, such as the length of the day, the length of rods and chains, etc.

(*b*) The same extraordinary usefulness of mathematical concepts in eliminating the waste of indetermination, shows itself also in the organization of our social institutions. In politics we have on the one hand the essentially twilight concepts of social welfare, the good of the state, national honor, etc., and on the other hand the concepts of majority rule, proportional representation, taxation based on percentage of income, etc. Passing over the whole field of economics where the application of our doctrine is too obvious, it is well to note how the life of legal institutions which aim to delimit human interests and to avoid conflicts, depends on the effort to find concepts with smaller twilight zones to replace these with very large ones. One illustration may suggest many others. It is generally recognized that some people are not competent to conduct their own affairs. The efficiency of the law depends on finding concepts more definite than the practically vague one of incompetency. Thus the law has to invent machinery for determining legal insanity, and it fixes the ages of discretion at twenty-one (for most civil purposes). When does a man become twenty-one years of age? To remove some actual indefiniteness in people's answers to this question the

law has had to invent a special rule to determine just when a man becomes twenty-one. In these as other matters, such as when the day ends and night begins, the law attains definiteness by utilizing the results of mathematical astronomy. In general, in law as in politics and economics, the value of substituting definite knowledge for vague beliefs, is obvious. The law, therefore, endeavors to delimit the boundaries of conflicting interests as sharply as the facts will allow. But here as elsewhere the drawing of sharp lines has its dangers, and every legal system does violence to the finer social susceptibilities by its ignoring of individual differences. Hard and fast rules also depress social initiative and make legalism a curse. Hence the best legal minds always recognize the necessity of equity or *epieike* which comes into play with the sense of justice of the individual judge.

In social life, art, and religion, rules are as necessary as elsewhere for security and for economizing the fitful tides of life and inspiration, but the danger of rigid rules is clearest in these fields. And human wisdom consists in recognizing both the supreme claim of rational effort and its pathetic inadequacy.

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REPLY TO PROFESSOR CALKINS

IN reading Miss Calkins's friendly comment on my *General Theory of Value*, in this JOURNAL, October 13, 1927, I find myself more gratified by her agreement than disturbed by her criticism. Perhaps this is because I feel that the former is based on understanding, the latter on misunderstanding. She charges me with "inconsistency, at least in statement" (p. 578), because she thinks that in declaring interest to be psychological I have denied that it is biological, while in affirming it to be biological, I have denied that it is psychological. Now I have explicitly said that interest was psychological, and have explicitly pointed out wherein I believe a merely biological account of it (in terms of adaptation) to be inadequate. This Miss Calkins acknowledges, but she thinks that my psychologizing, both the profession and the practice, is contradicted by my placing interest "upon the plane and in the context of physical nature" (p. 579), and by my motor-organic account of cognition and other acts of mind. There is, however, no inconsistency unless it is assumed that the psychical does *not* lie "upon the plane and in the context of physical nature," and that mind is *not* a function of the organism. This assumption, of course, I reject, and the rejection of it is so central an article of my philosophic creed, that I have been willing even to call myself a

"behaviorist," lest people might suspect that I made such an assumption.

But what I have literally said is no great matter, and what I mean by what I have said is evidently in doubt. So let me try, briefly, to say it again. I think that in the present state of philosophy the terms "mental," "conscious," and "psychical" are so dubious that merely to attach these adjectives to a substantive is no longer illuminating.[1] This, I take it, is what James meant when he raised the question, "Does Consciousness Exist?" He meant to imply that the day has passed when it sufficed to say that consciousness is—just consciousness. Trying to find out *what consciousness is,* I seem to find that it consists of characteristic activities of the living and neurally integrated organism together with the "objects" to which these address themselves. But this does not mean that one has "reduced" consciousness to the organism, any more than that one has elevated the organism to the level of mind. It means both and neither. It means that one has substituted a continuity or progression for a flat dichotomy of incommensurable terms.

If this be a true view of the matter, then one is no longer entitled to say that the activities of the organism are "*merely* biological," in the sense of the methods employed by the most rigorous school of biologists; any more than that it is "merely physical" or "merely chemical," in the sense of the existing sciences of physics and chemistry. Indeed, it is extremely doubtful if even biologists are biological, in the privitive and limiting sense in which dualistic psychologists suppose them to be. One who takes a certain *view* of consciousness, to the effect, namely, that it consists in a characteristic mode of organic behavior, should not, then, be accused of *denying* consciousness, and of being blindly and basely materialistic. He does not, as Miss Calkins points out, hold that "merely biological theory which ignores or denies consciousness" (p. 581). If he is open to attack, it must be on the ground that he has *mistaken the nature* of consciousness. If, for example, his conception of mind fails to embrace certain "higher" activities, or alleged data of introspection, then this should be pointed out; and some other more adequate conception should be provided which will, in *its* turn, do justice to the natural genesis of mind, to its organic locus, and to its commerce with the physical environment.

Miss Calkins imputes to me the view that the several forms of consciousness are the functions of "a psycho-biological entity, the conscious organism" (p. 580). That satisfies me entirely, provided

[1] If anyone has any doubts on this point let him read *The Psychologies of 1925.*

I am allowed to construe this adjective "conscious" in my own way. Thus, convicted of inconsistency in the first paragraph, I find myself happily reprieved in the last.

On the off-chance that someone who is in doubt may wish to know, let me say that I am a behaviorist in the same sense in which I am a pacifist, that is, in the *ante-bellum* sense. I do not believe in peace at any price, but before the war pacifism did not mean that; it meant that one had pacific ideals and believed in their eventual realization. Before the war a behaviorist was a man who construed mind as a function, or a way of behaving, characteristic of a living organism. In those days Professor McDougall wrote a book called *Psychology, the Study of Behavior.* Nowadays behaviorism, like pacifism, has become an epithet identified with the most radical form of a doctrine for which it was once a general name. Just as I fail to see why Judge Taft or Hon. Elihu Root, who once promoted a "League to Enforce Peace," should hand over a good word like "pacificism" to Rosika Schwimmer, so I fail to see why Professor McDougall should make a present of the label "behaviorism" to Professor Watson.

In any case, if behaviorism means that mind is identified with a physico-chemical process originating in a stimulus and terminating in a muscular twitch at the end of an efferent nerve, then I am certainly not a behaviorist. Nor do I know of any zoological biologist who is, either. It is in my judgment as certain as anything in philosophy can be that mind takes cognizance of objects. And its objects are not, except in the case of the thinking physicist, those electronic entities which physics conceives as initiating the train of stimulation. Thus Professor Watson's mind, for example, takes cognizance of a theory known as behaviorism. It is equally certain, I think, that (in some sense requiring careful analysis) minds are governed by a cognizance of future possibilities. Thus Professor Watson's efforts are perhaps directed toward a millennium when all psychologists shall be behaviorists. With a theory of mind that would deny historic facts like these because for "scientific" reasons it may be inconvenient to examine them, I have the minimum of philosophical sympathy.

RALPH BARTON PERRY.

HARVARD UNIVERSITY.

BOOK REVIEWS

Des Vérités Éternelles chez Descartes. ÉMILE BOUTROUX. Thèse Latine traduite par M. Canguilhem. Préface de M. Léon Brunschvicg. Paris. Félix Alcan. 1927. Pp. 146 + xxxix.

Nouvelles Études d'Histoire de la Philosophie. ÉMILE BOUTROUX. Paris. Félix Alcan. 1927. Pp. 245.

These two books represent Boutroux in the earliest and latest phases of his thought. The first is the translation of a Latin thesis submitted in 1874, along with the better known French thesis, *De la Contingence des Lois de la Nature,* shortly after the young student's return from Heidelberg. The second is a collection of articles on recent thinkers in France, published during the present century, when Boutroux became a member of the Academy and a recognized authority on the history of philosophy. From first to last he was concerned with the "eternal verities" as the basis of science and religion. He conceived them, not as static, *a priori* truths, but as dynamic constructions in a historical development and contingent upon the free action of the will. He would have us regard history as a resurrection, not an interment of ideas.

According to M. Brunschvieg, Boutroux was responsible for the revival of studies in the history of philosophy in France. A pupil of Zeller's and translator of his monumental work on Greek philosophy, he had encountered the reaction against Hegelian dialectic in Germany and was committed to a less abstract and formal interpretation of history. He wished to emphasize individual diversities, considering them, not with Zeller as accidental variations which offset one another under the dominant motives of history, but as manifestations of "a power whose action is capable of breaking, more or less definitely, the thread of historical continuity." He felt that his teacher had rejected the form rather than the foundation of the Hegelian system. In Zeller he found "the distinctive trait of the German mind . . . which sees in the individual as such only a negation and provisional form of being," while for the French spirit "individual free will is an *end in itself.*" It was, then, in the history of ideas, as the action of creative individuals, that Boutroux sought to establish the grounds of religious and moral certainty as well as the uniform laws of science.

The same voluntarism, which appears in the essay on *Philosophy in France since 1867* (read before the International Congress at Heidelberg in 1908), had been formulated by Boutroux in his interpretation of Descartes in 1874. In his Latin thesis, he maintains that the philosophy of Descartes is centered, not in the principle of self-certainty, but in the idea of a Perfect Being, whose nature unites the abstract essences or eternal verities with the infinite possibilities of existence. The principle of this divine nature is free activity and the essences, no less than existences, are freely created by God. Thus, the essences do not explain his activity, but his activity involves the essences. The same truth applies with limitations to

finite wills. "It is only in the degree to which it participates in essence or understanding that power deserves the name of will; and on the other hand in the degree to which essence admits of power, that is to say, is moved by will and action, it becomes, rightly, understanding, which grasps things as not only possible but real" (p. 62). "From the consideration of God as the being in whom essence and existence are necessarily united, it clearly results for me that this existence which is affirmed in the words: 'I think, therefore I am,' is not only objective, but effective" (p. 110). Is the divine power not only free, but arbitrary? In other words, could the Perfect Being have created a universe contrary to the metaphysical and mathematical essences? The answer is that "while he could only realize them according to his own perfection, he was not, however, at all obliged to subject them to the relative law of contradiction" (p. 75). How "the Cartesian principles constitute sometimes a duality, sometimes a unity" and how a causal reciprocity obtains between the unalterable essences of the understanding and the free activity of the will (pp. 137 ff.), is a question that remains somewhat obscure in the thesis, unless one is inclined to accept the view that there are "two kinds of contradiction: one between imperfect things considered in themselves alone, the other between perfection and its contrary" (p. 68).

In his survey of French philosophy since 1867, Boutroux is characteristically opposed to the tendencies of positivism and what he regards as the possible replacement of philosophy "by a collection of philosophical sciences, that is to say, by some unities added to the list of the positive sciences." This would amount to the complete abolition of philosophy. Yet beneath the growing preoccupation of philosophers with special problems arising out of the physical and social sciences, he still discerns the independence of the philosophic impulse. "To the sense for the general, which is the mark of the scientist, our philosophers add or oppose the sense for the real, for the living, for fully concrete and determinate being. And, comparing that which is with that which science explains, they never tire of indicating a hiatus between these two terms. They maintain the rights of a living and complete experience in the face of the artificial and systematized experience instituted by science." The true function of philosophy is to conceive things from the standpoint of unity, and the principle of this unity is borrowed from human nature. "To understand is to relate to oneself. A certain anthropomorphism is thus implied in the very idea of a philosophy. Man understands things in the degree to which he rediscovers himself in them."

The remainder of the *Nouvelles Études* are about various thinkers who influenced or were influenced by Boutroux during his long and

active career: his first teacher of philosophy, Jules Lachelier; Henri Poincaré, whose genius he was able to appreciate in a peculiarly intimate way; Ollé-Laprune, who strove to re-establish philosophy upon the foundations of Catholic Christianity; Evellin, Félix Ravaisson, and Charles Secrétan. Without personal bias, each of these diversified studies displays a single vision and a persistent conviction. Of their author it might be said (to paraphrase his own words): *Dévoué à la science, il resta l'apôtre de l'idéal.*

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Morales et Religions Nouvelles en Allemagne. Le Néoromantisme au delà du Rhin. ERNEST SEILLIÈRE. Paris: Payot. 1927. 313 pp.

M. Seillière is still pursuing hotfoot his trinity of "isms," mysticism, romanticism, and—less prominently in this book—imperialism. It is a subject on which he has poured out the devotion of a lifetime and on which he confesses to more than two score books, most of them in the last decade. Recent years have evidently sharpened his perception of the relationship.

He rides his hobby with zest and ease. The unwary follower, however, is apt to come a cropper unless he takes counsel betimes and orients himself. The author, an Hegelian and professing unqualified adherence to what he calls "le mysticisme de la raison" (291), sees mysticism and romanticism in places where they are not conventionally sought. He distinguishes a romanticism of the right and one of the left. The former is German; it is esthetic; it is the inspiration of what he calls racial mysticism, the quality best known in German *Kultur,* pride in race and belief in its messianic mission. Romanticism of the left needs less definition since it is familiar to us under the name of socialism. M. Seillière finds it essentially Gallic enough to call it French romanticism. Its first great manifestation was the French Revolution, at whose flames the German socialist fathers lift their fires. M. Seillière holds these two forces, now embattled against one another, to be of common origin: "It is mere truth to say that from naturistic romanticism, their common source, Germany, more impregnated with rational Christian doctrine, has especially developed the aesthetic and racial phases, France, more deprived of moral leaders, principally the passional and social-democratic phases: not forgetting that borrowings have been made on either side, as I have had occasion to note" (50).

This conception of romanticism admits of much, one might almost say endless, discussion. It is all-embracing. Of course, classicism is not excluded—the Germans long ago discovered that classicism was but romanticism grown wise; nothing but the most strait-laced

and obstinate rationalism is beyond the pale. With such a fine-meshed drag net M. Sellière sweeps the troubled waters of German philosophical thought and brings to view many an exoticism. The present haul offers us some old and some new. Aside from a thirty-page introduction on genetic psychology, whose connection with the rest of the book is of the most tenuous, and two appendices devoted, respectively, to the romantic period 1795–1830 and to a biographic account of M. Ernest Seillière, Membre de l'Institut, each chapter consists of a review of some German book or books. We learn that Germany has revived its interest in Jules Langbehn, queer Messiah of Pan-Germanism who had his day thirty years ago. Also that Thomas Mann is still an unrepentant non-romanticist, but much more acceptable to French Republicans since his Carnegie Endowment speech in Paris and his *Pariser Rechenschaft.* One John Macready, a second Houston Stewart Chamberlain in the exchange of the land of his fathers for German allegiance, out-rousseaus Rousseau in extolling the perfection of primitive man, reconstructs in a huge tome with the catchy title *Der Aufgang des Abendlandes* the civilization of the Neanderthal race and the inhabitants of Atlantis, and hails the African Bushmen as their glorious descendents. Of Keyserling we read that he is an occultist and a prophet. M. Seillière esteems of more weight and depth than the works of Keyserling and Spengler the philosophy of Leopold Ziegler. He finds Ziegler in the main in agreement with his own theories.

Such hasty epitomization does scant justice to M. Seillière's painstaking work. There is probably no one who knows so much about the philosophy of romanticism and all its vagaries as he, and he is unquestionably right in proclaiming the persistence among the Germans of a certain mysticism, which has clothed itself variously in succeeding ages, giving varying accounts of its existence, but never quite fading from sight. Germans do tend to mysticism; some sort of Rousseau is born among them in every generation; romanticism nas been their inalienable heritage, sometimes a curse, more often a blessing; and having imbibed imperialism in the Napoleonic school of experience, they have tried to assimilate it into their romantic nature. These are well-known ideas which M. Seillière himself has contributed to make better known. It is questionable whether they gain in validity, or even appeal, by reiteration. I rather doubt it, particularly when the argument is made on the basis of such questionable documents as the lubrications of a Chamberlain or a Macready.

I am inclined to say that the chapters of this book, if given as lectures, would have considerable interest to all who keep abreast of the times; though even then I should prefer to have less running

comment and some sort of résumé. Unfortunately, M. Seillière hasn't the safety valve of a student body. For a book, the material is almost too current. To catch every book of a certain color hot off the press and interpret it, is hazardous practice for a philosopher at best, though it may be forgiven him if he does it as *causeries en famille*. His reactions certainly lose something of dignity when given the permanence of a book and sold indiscriminately over the counter. It is all the more pity since the reader is thereafter never sure whether he is to tune his ear to the philosopher or the publicist.

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An Experiment with Time. J. W. DUNNE. New York: The Macmillan Co. 1927. 208 pp.

This is a book very difficult to take seriously. The point of departure, the logical apparatus, and the conclusions are so uncritically adopted, that the temptation to substitute satire for a serious review is repressed with some hardship. However, the problem of time is central for contemporary thought; perhaps even a short notice of an essay so much without merit may therefore be pardoned, if it points out a few obvious errors, of which, indeed, this book forms a fairly complete compendium.

The author, stimulated by a series of extraordinary dreams of events realized in the *future*, undertakes a reconstruction of our conception of time, so that such temporal displacements may be accounted for. He discovers by an analysis of what he presumes to believe to be the empirical character of time, that time has many dimensions, and that the observing "self" is an equally many-dimensioned *entity* with sections in each of the temporal dimensions. The "ultimate" individual observer with his status in "ultimate" time may "intervene" in the mechanical order. Dreams of future events are possible, since any one of the sections of the multi-dimensioned observer (except the lowest section) can behold the spread of the future in the dimension of time lower than the one in which he has his own locus. In fact, the ultimate observer is learning to interpret through the three-dimensioned brain the vista he is beholding in ultimate time. Finally, all individual observers are but differentiations within a "superlative" observer capable of thought and prevision transcending the similar function of individual observers. Death, as is to be expected, occurs only in the lowest time stratum. Once more, God, freedom, and immortality are rescued in the name of science.

The subject-matter of the book falls into two parts: the first consisting of a prolegomena on psychology, psychophysics, and an ac-

count of the dream experiments; the second, of an analysis of time. Of the experimental data in the book only a charitable view is possible. Indeed, Mr. Dunne himself disarmingly recognizes that much of the evidence presented is rubbish. But he takes seriously observations of friends and relatives whom he prevailed upon to read the future with him; and the high correlations between dreams and future events, obtained from carefully selected material, gives him much satisfaction. Much more significant, however, are his pronouncements on fundamental issues. Qualities, we are told, are the non-physical residuum in any occurrence; they are essentially dependent upon the presence of an immediate observer (pp. 8, 9). Phenomena are to be regarded as nothing more than effects associated with brain workings (p. 15). The impression grows on the reader that what he observes is always the back of his head. There is no escaping this impression when we read further on that: "the field of presentation contains mental phenomena . . . it represents the observer's *outlook on Space;* . . . it occupies the same spatial position as the observer's cerebrum which is in the state of activity associated with production of *observable* psychical phenomena" (p. 128). Mr. Dunne lands ultimately in a two-world view of a psychical entity, devoid of temporal quality, which by its magical interaction with an equally changeless material world produces time. If the study of modern philosophy is at all instructive, it is safe to say that it would have been a miracle to have produced from such premises anything but a radically bifurcated universe. To deny qualities to things by relegating them, as a first step, to a finite mind, is to deny change, and to make a mystery of finitude and a puzzle of knowledge. Mr. Dunne is faithful to the tradition of Newtonian cosmology and associational psychology.

But Mr. Dunne believes the chief value of his book to be in his discovery that time is many-dimensioned. He purports to begin with the "common-sense" notion of time. Time has length, divisible into a past and future, extending into a fourth dimension. The present instant alone is observable and this present field of observation moves along the time length so that events appear in succession and not all at once. The source and support of these attestations are the writings of Hinton and Wells. Mr. Dunne's own great discovery is to point out that the statement that the present *moves* along the time direction implies a *rate* of motion and therefore another more ultimate time T_2 measuring motion along T_1. One would suppose that if this were a legitimate inference from the statement that the present moves along T_1, it would have been imperative for the author to rehaul and perhaps abandon the use of time as a fourth dimension. That it needs rehauling in some minds there is no doubt.

To characterize time as a fourth dimension is not necessarily to substantialize it; to use four symmetrical coördinates in the equations of physics is not to identify space and time so that we may run about in four rather than in three dimensions. For to reify time in this manner is to deny the temporal process itself; to aver that the world is "all there," that all differentiations are given once for all, is to make nonsense of activity and contingency. Time, like space, we have been taught recently, if perchance we had forgotten the ancients, is a character of *events*, not prior to them. Both are objective, and, derived from a common subject-matter, each demands the other. But to take time as a fourth dimension, as a receptacle already filled, in which events are located, is to be betrayed by words—it is to hypostatize functions discriminated and then to derive the subject-matter from the discriminated elements. Mr. Dunne, however, has no qualms about the literal truth of metaphors, and so T_2 is at right angles to T_1; and the same insight enables him to discover an infinity of times mutually perpendicular to each other. There is (*mirabile dictu*) an ultimate Time, the Time at the "end" of the infinite series. Why there must be a limiting term to the series of times, or why the same dialectic would not be fatal to the ultimacy of the time at infinity, Mr. Dunne does not consider necessary to show.

The apparent temporal character of the world, as was to be expected, is due to the flitting of the focus of attention of the observer (*cf.* p. 158). Such observer must be *out* of the dimension which he beholds—on the analogy no doubt that a line could never observe its one-dimensional extent unless it were also *out* of the plane in which it was imbedded. And since the observer is an "observer at an instant," and since such an atomic creature can never examine himself (p. 157), the *raison d'être* of the many-dimensioned observer becomes evident. Mr. Dunne works from a theory of "instantaneous" worlds and observers, and conceives the subject-matter of physics in such a manner that consciousness can have no possible place in it. But not even the heroic measures to which he has had to resort can weld the universe together again or lay the ghost of fatalism which he has raised.

There are numerous references to physical relativity throughout the book (*cf.* pp. 111, 133). It is not incumbent upon everyone to become acquainted with that theory, but it is not too much to expect that anyone referring to it should be familiar with what he is talking about.

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Speech: Its Function and Development. GRACE ANDRUS DE LAGUNA. New Haven: Yale University Press. 1927. Pp. xii + 363.

The only possible hope of any solution of the problem of the origin and evolution of speech seems to lie in psychology. We know a small part of the history of language from the earliest records in Sumerian and Egyptian, about 4000 B.C.; and we have a large mass of linguistic material of many types, from the most "primitive" to the most "advanced" (i.e., spoken by backward and advanced peoples respectively), a fair number of which have been studied not merely in their outward form, but also in their underlying psychology. A thorough psychological study of language is much needed; its value would be as great for the linguist (a term to be preferred to the more current "comparative philologist") as for the psychologist and every other student of any manifestation of man's activity.

A psychologist, however, can no more write upon language without an adequate knowledge of linguistics than a linguist can write upon psychology without an adequate knowledge of psychological principles; only when a scholar thoroughly versed in both fields, and with no pet theory to propound, shall humbly undertake the task, dare either the psychologist or the linguist hope to have anything worth the reading. Unfortunately, the volume under consideration fails to meet these rather obvious requirements. Whatever the author's psychological and philosophical attainments, it is evident that she does not possess any but the most superficial acquaintance with the principles of language. She seems, moreover, to be so convinced of the omnipotence of a single theory that language becomes to her a mere form of "behaviorism." The whole book rests on three postulates: (*a*) man descended from trees and began to use tools, one of which was language for "social" or "group" co-ordination; (*b*) he evolved speech from the cries of his ancestors; and (*c*) "behaviorism" solves it all. Postulate (*a*), however, though perhaps the best working theory hitherto proposed, seems not yet to have attained such universal scientific acceptance that it can safely be adopted as the cornerstone of an hypothesis which must otherwise fall to the ground. Postulate (*b*) is apparently unsusceptible either of proof or of disproof. Some word-groups may well have arisen from cries; but examination of word-bases in any group of languages, whether African, American, Finno-Ugric, Indo-European, Semitic, Polynesian, or what not, fails to convey even the probability of such origin in more than rare and very sporadic instances. Again, it is matter of common knowledge that, generally speaking, the more "primitive" a language is, the greater its complexity, a condition which seems scarcely to square with a theory of such simplicity. Postulate (*c*) involves one's attitude toward the whole question of

"behaviorism." One may gladly grant its elements of truth, and its value as a contribution toward knowledge; but at the same time it seems wise to maintain an attitude of scientific reserve till its relation to the *omne scibile* is more fully apparent, and in any case it appears to suffer from at least one grave fault: in its rather one-sided enthusiasm for the "group" and "social organism" it may be thought by some to overlook the fact that man is not only a social animal, but an individual as well. It seems safe to assert that the problem of language, like that of any other highly complex phenomenon whatever, can not be solved by a single theory, since it most probably results from a combination and interplay of many antecedent factors.

From the purely theoretical point of view, the hypothesis is plausible and by no means impossible; and the case is argued well and with evident sincerity. More than this, it may conceivably be true, for in view of the paucity of material between the time when man first spoke and the period when we begin to have sufficient material really to study language it would be difficult to disprove the theory and equally hard to prove it—and equally immaterial, since truth, not theory regarding truth, alone matters.

The fatal weakness of the book, and one which, the linguist is pained to be obliged to point out, renders it scientifically futile, is its failure to take account of the data of language as it actually exists; and it may be significant that, with rare exceptions, all its references are to psychological works, with almost none to linguistic treatises. Yet there is a rich bibliography on the author's subject, as on many other phases of language, in the issues (since 1913) of the *Indogermanisches Jahrbuch;* there are such admirable compends as M. Vendryes's *Le Langage: introduction linguistique à l'histoire* (Paris, 1921; also in English translation); there is the excellent survey of practically all known tongues, with adequate bibliographies, in *Les Langues du monde,* edited by MM. Meillet and Cohen (Paris, 1924). If, for instance, Professor De Laguna had read the latter work, she would have been saved her dubieties regarding classifications of languages (pp. 111–112), for M. Meillet there makes a statement (p. 1) which is really a truism, taken for granted by all investigators of recent years: "La seule classification linguistique qui ait une valeur et une utilité est la classification généalogique, fondée sur l'histoire des langues." The linguist surely has a right to ask that the ascertained data regarding his science be taken into due consideration in any work dealing with language!

One example, rather important to Professor De Laguna's whole theory, will perhaps serve to show how grave are the consequences of her failure to evaluate the data of language as really found. She

says (p. 56) that, "What is essential to the emergence of speech is precisely the differentiation of the proclamation as such from the command"; and, further (p. 77), that, "We may roughly group cries in their proclamatory aspect as follows: (1) the proclamation of presence, or of existence, (2) the predicative proclamation, (3) the proclamation that one is about to act in a certain way, (4) the proclamation that one has just acted in a certain way." The meaning of the terms "command" and "proclamation" is here rather obscure, but if the linguist may take them in their apparent sense, he may construct some such series as, "Strike!; it (is) striking; it strikes; it will strike; it struck," or, perhaps, "Fire (be) hot," etc. From the point of view of the modern Indo-European languages he may readily admit the validity of this argumentation, but it will soon break down when pressed to their earlier stages, for they, like Semitic, have no real futures (Latin *amabo*, Greek λύσω, for example, have merely acquired future force, like French *j'aimerai* < Late Latin *ego amare habeo* or English *I shall do*). The whole theory of the tense-system has undergone of recent years a radical transformation; and even the question of the priority of the "verb" over the "noun," or, indeed, its equal antiquity, requires careful reconsideration—both problems, it may be suggested, of psychological as well as linguistic importance.

What we need, and urgently need, psychologists, philosophers, and linguists alike, for the much-wanted increase of our scanty knowledge of the development and possible genesis of language is not a fancy-spun theory in the interests of any hypothesis whatever, but a far less romantic (and far more difficult) grubbing into the actual phenomena of language, not of one type, but of all types, with no preconceived ideas save to determine what languages actually mean: what *is* a "verb," a "noun," a "tense," a "case," etc., in psychological meaning? What light can psychology, physics, physiology, anthropology, archaeology, and all the rest cast upon linguistics, and what aid can linguistics give them to help in the solution of their problems? But no theories, save such as may be deduced from definite data! Only thus can we hope to have any psychology of language worth knowing; and though prophecy be dangerous, we may at least express the fear that the exact origin of speech may never be known. Theories are very good, and very necessary; but, however plausible, they are devoid of real worth save in so far as they are founded on prosaic facts.

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Christianity and Naturalism. ROBERT SHAFER. New Haven: Yale University Press. 1926. Pp. viii + 307.

It is the purpose of the author to consider selected biographical expressions of central issues between naturalism and Christianity, in order that the adequacy of these two interpretations may be discerned and compared in the realm of human experience.

Arising in ancient times as a protest against "grisly mysteries" of crass superstition, naturalism is pictured as battling through the centuries to free man's thought from irrational fears, barren rationalizations, and empty hypotheses—always in the confidence that human intelligence can someway discover the "habits of nature" and the "laws" which dominate our world. The search after these "laws" has brought rich rewards—physical, economic, and intellectual.

Yet, in the position of naturalism, we are told, there lurks a serious fault. For a method which is specialized, it claims universality, and for a point of view which is limited—finality. A too ardent assault upon superstition itself becomes a superstition, we are warned, whenever naturalism erects itself as a complete positive interpretation of the universe. The basis of the statement is founded primarily on historical interpretation: "From the dawn of European thought to the present day it [naturalism] has again and again proved its usefulness as an instrument of criticism, but it has never attained autonomous expression without exhibiting its utter incompetence to deal with the significant facts of human life" (pp. 289–290). This alleged inadequacy of whole-hearted naturalism is charged to neglect of an important class of man's experiences—those, chiefly, having to do with meanings and values. In so far as naturalism makes any claim to finality or completeness, it must deny what is not in harmony with its discoveries and ignore what is inexplicable by its methods. "The unified conception thus obtained on the basis of objective study inevitably," it is argued, "involves the sacrifice of human nature—" (p. 285). To repeat the record of man's ideas *about* values is not to *explain* the values, and this history is the limit of naturalistic investigation (*cf.* p. 291).

At this point Christianity is offered as a more adequate interpretation of human experience. It is the author's opinion that though many historic forms of Christian belief may well be regarded as strange by modern eyes, many historic rituals unsatisfactory symbols, the future of contemporary religious organizations gloomy—yet beneath all this, historic Christianity itself remains impregnable to naturalistic attack for the reason that it "does recognize the enduring facts of life and does give them a sound meaning, and its estimate

of human existence and its possibilities when tried by the test of common experience, shows itself solid and true to the centre" (p. 295). The ambiguity of such statements can not destroy their importance.

The author's conclusions, which I have here suggested, are drawn not from argument, chiefly, but from experience—the experience of six selected men of letters and science in whose thought conflict raged over the issues of naturalism and super-naturalism—Coleridge, Cardinal Newman, Huxley, Matthew Arnold, Samuel Butler, and Thomas Hardy. To each a chapter (originally a lecture) is devoted—less for the purpose of setting forth new biographical and critical material than for observing the effort in each case to find in the systems under consideration a satisfactory interpretation of experience. The survey of religious thought in England in the seventeenth and eighteenth centuries, to which the opening chapter is devoted, moves with interesting comparisons and somewhat dangerous generalizations.

In the selection of a method of development for the book—by the study of biographical expressions of philosophical problems—the author has made a significant contribution. Granting the probability of dissension upon the choice of cases for study in such selection, yet the value of candid investigation of human experience at any point carries a significance which should not be minimized. The danger of the method, obviously, lies in drawing too wide conclusions from the data observed. Were the final chapter of the present inquiry intended as a conclusion founded upon material presented in earlier discussion, the author would certainly be guilty of this error, for conclusions here offered are unquestionably both more sweeping and more decisively stated than the limitations of the source would warrant. However, I choose to interpret the author's purpose to be, not the presentation of a conclusion to arguments regarded as fully developed, but rather, the statement of a philosophical creed—not *proved,* but in a measure substantiated, by biographical illustration, in which case it has the commendable qualities of suggestive points of insight, clear and decisive statement, and good literary style—which are characteristic qualities, indeed, of the work as a whole. Throughout, a human interest is sustained, to which, however, are usually sacrificed the more minute considerations which the issues raised suggest to the technical philosopher.

Excellence of mechanical construction entitles the publishers to special comment.

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of human existence and its possibilities when tried by the test of common experience, shows itself solid and true to the centre'' (p. 295). The ambiguity of such statements can not destroy their importance.

The author's conclusions, which I have here suggested, are drawn not from argument, chiefly, but from experience—the experience of six selected men of letters and science in whose thought conflict raged over the issues of naturalism and super-naturalism—Coleridge, Cardinal Newman, Huxley, Matthew Arnold, Samuel Butler, and Thomas Hardy. To each a chapter (originally a lecture) is devoted—less for the purpose of setting forth new biographical and critical material than for observing the effort in each case to find in the systems under consideration a satisfactory interpretation of experience. The survey of religious thought in England in the seventeenth and eighteenth centuries, to which the opening chapter is devoted, moves with interesting comparisons and somewhat dangerous generalizations.

In the selection of a method of development for the book—by the study of biographical expressions of philosophical problems—the author has made a significant contribution. Granting the probability of dissension upon the choice of cases for study in such selection, yet the value of candid investigation of human experience at any point carries a significance which should not be minimized. The danger of the method, obviously, lies in drawing too wide conclusions from the data observed. Were the final chapter of the present inquiry intended as a conclusion founded upon material presented in earlier discussion, the author would certainly be guilty of this error, for conclusions here offered are unquestionably both more sweeping and more decisively stated than the limitations of the source would warrant. However, I choose to interpret the author's purpose to be, not the presentation of a conclusion to arguments regarded as fully developed, but rather, the statement of a philosophical creed—not *proved,* but in a measure substantiated, by biographical illustration, in which case it has the commendable qualities of suggestive points of insight, clear and decisive statement, and good literary style—which are characteristic qualities, indeed, of the work as a whole. Throughout, a human interest is sustained, to which, however, are usually sacrificed the more minute considerations which the issues raised suggest to the technical philosopher.

Excellence of mechanical construction entitles the publishers to special comment.

CLIFFORD BARRETT.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES.

JOURNALS AND NEW BOOKS

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Abel, Annie H., and Frank J. Klingberg: A Side-light on Anglo-American Relations, 1839–1858. Furnished by the Correspondence of Lewis Tappan and Others with the British and Foreign Anti-Slavery Society. Washington, D. C.: Association for the Study of Negro Life and History, Inc. 1927. vii + 407 pp. $2.15. (Includes publication of the Tappan Papers, dealing with slavery.)

Basch, Victor: Essai Critique l'Esthétique de Kant. (Bibliothèque d'Histoire de la Philosophie.) Nouvelle édition augmenté. Paris: J. Vrin. 1927. l + 634 pp. 60 frcs.

Cameron, Edward H.: Educational Psychology. (The Century Education Series.) New York: The Century Co. 1927. xiv + 467 pp. $2.50.

The Point of View. An Anthology of Religion and Philosophy selected from the Works of Paul Carus. Edited by Catherine Cook. Chicago: The Open Court Publishing Co. 1927. xi + 211 pp. $2.50.

Ellwood, Charles A.: Cultural Evolution. A Study of Social Origins and Development. (The Century Social Science Series.) New York: The Century Co. 1927. viii + 267 pp. $2.50.

Fels, Mary: Toward the Light. New York: George Dobsevage. 1927. 280 pp. $2.50.

Fischer, Ludwig: Die natürliche Ordnung unseres Denkens. Und der Zusammenhang der Weltanschauungen. (Beihefte zu den Annalen der Philosophie und Philosophischen Kritik, 7.) Leipzig: Felix Meiner. 1927. xi + 359 pp. 16 Rm.

Gosse, Sir Edmund: Leaves and Fruit. New York: Chas. Scribner's Sons. 1927. x + 382 pp. $2.75.

Russell, Bertrand: Philosophy. New York: W. W. Norton & Co. 1927. vi +307 pp.

Christianity and the Present Moral Unrest. New York: Oxford University Press, American Branch. 1927. 255 pp. $2.00. (A series of discussions by members of the Conference on Politics, Economics, and Christianity held at Birmingham, England, 1924. The contributors to the volume are A. D. Lindsay, J. H. Muirhead, John W. Harvey; Helen Wodehouse; O. C. Quick; G. F. Barbour; H. J. W. Hetherington; Erica Lindsay, H. G. Wood; J. A. Thomson; Clement C. J. Webb; William Temple.)

Turner, J. E.: The Nature of Deity. (Sequel to Personality and Reality.) New York: Oxford University Press, American Branch. 1927. 248 pp. $3.50.

NOTES AND NEWS

The Fourth Annual Meeting of the Pacific Division of the American Philosophical Association was held November 25 and 26, 1927, at the University of California at Berkeley. The program was in part as follows:

FRIDAY, NOVEMBER 25

10 a.m.

Some Social Factors and the Rise of Greek Philosophy..*H. C. Blote*
The Place of the Self in a System of Realism.....*R. T. Flewelling*
Alogistic Intelligence and Philosophical Wisdom..*H. B. Alexander*

2:00 p.m.

Judgment.....*J. Loewenberg*
Cosmic Structure.....*J. E. Boodin*
Cogito Ergo Sum.....*G. Mueller*

7:00 p.m.

Annual Dinner

8:00 p.m.

Annual Smoker and the Presidential Address by Professor G. P. Adams: "Immediacy and Meaning."

SATURDAY, NOVEMBER 26

9:30 a.m.

Simple Logical Calculus.....*F. Anderson*
Relations of Aesthetic Judgment to Knowledge in General..*D. Prall*
A Puritan's Idea of Beauty.....*H. G. Townsend*

The Faculty of Letters of the Catholic University of the Sacred Heart at Milan has published the first number of a new review devoted to the historical, linguistic, and philological sciences. It is entitled *Aevum*, and will be published quarterly. Address: via S. Agnese 4, Milan, Italy. Subscription, 70, 30 L.

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Volume XXIV. No. 19. September 15, 1927.

Relativity and the Lay Mind (II). BENJAMIN IVES GILMAN.
If We Have Life, Do We Need Philosophy? MARJORIE S. HARRIS.
Book Reviews. Journals and New Books. Notes and News.

Volume XXIV. No. 20. September 29, 1927.

A Principle for Realism. CHARLES M. PERRY.
Anthropology and the Rights of Man. BENJAMIN GINZBURG.
Book Reviews. Journals and New Books. Notes and News.

Volume XXIV. No. 21. October 13, 1927.

Mr. Dawes Hicks's Theory of Perception. GEORGE BOAS.
The Data of Consciousness as Essences. DURANT DRAKE.
Biological or Psychological? MARY WHITON CALKINS.
Book Reviews. Journals and New Books. Notes and News.

Volume XXIV. No. 22. October 27, 1927.

Wholes and Prehensive Unities for Physics and Philosophy. LEWIS P. AKELEY.
Book Reviews. Journals and New Books. Notes and News.

Volume XXIV. No. 23. November 10, 1927.

Dr. Schiller and Analysis. DICKINSON S. MILLER.
The Doctrine of "Illusion" and "Error" in Scheler's Phenomenology. PAUL ARTHUR SCHILPP.
Book Reviews. Journals and New Books. Notes and News.

Volume XXIV. No. 24. November 24, 1927.

Personal Agency and the Humian Analysis. DENISON MAURICE ALLAN.
Mr. Drake on Essences and Data. GEORGE BOAS.
Book Reviews. Journals and New Books. Notes and News.

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